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**MEMORANDUM FOR THE RECORD**

**SUBJECT: Use of KH-4 Photography to Estimate Free World  
Agricultural Production**

1. At the request of Chief, COMIREX, I participated in a meeting on the above subject at NPIC on 10 September, chaired by Don Steininger, of the White House Staff, Chairman of the Steering Committee for Project ARGO. (The names of other persons attending are shown on the attached list.) Steininger opened the meeting by stating that it had been called to select for feasibility studies, specific Free World areas for which KH-4 photography is already available. Before exploring this subject, however, he asked me to comment on the current status of the Agency's R&D program on this subject.

2. I therefore summarized briefly the methodology developed by OGD [redacted] including its study of appropriate emulsions, sampling techniques, and analytical means for estimating acreage and yield. I then noted that the results of the 1967 pilot test against spring wheat in North Dakota, for which a high degree of estimating accuracy was reported, are now under review in IAS and OER. I concluded by explaining that if this evaluation proves to be favorable, we will consider extending the test program to rice culture and exploring the compatibility with COMIREX collection requirements and NRO flight programs. In this briefing I emphasized that we are mainly interested in estimating the production of major crops in denied areas, and that at the present time our major target is rice culture in Communist China. I was supported substantially in this briefing by [redacted] Chief, O/ODD/DCS&T, the senior Agency person responsible for [redacted]

3. Following some discussion of [redacted] NPIC reported that an intensive search had disclosed very little KH-4 imagery over the Free World that met requirements for [redacted]

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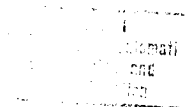
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agricultural estimating -- repeated coverage of the same areas during a single growing season, by cloud free imagery of useable quality. After viewing the list of locations, [ ] of AID stated pointedly that the available imagery was of little interest to AID because it did not include extensive coverage of major less developed countries such as India, Pakistan, and Turkey.

4. For Agriculture, [ ] expressed the more comprehensive objective of estimating world production of some twelve food crops and livestock inventory. He, too, indicated disappointment at the limited quantity of useable film over Free World areas for which ground truth is also available, as a basis for the preparation of feasibility studies (presumably by [ ] ANGO's Project Contractor). [ ] initial reaction was that the only available repetitive coverage was that over the Soviet Ukraine. He will consult with his people to determine whether ground truth of acreage and yields would support the use of this film for a feasibility study. Other alternatives would include the use of KH-4 coverage over the US for similar purposes, although [ ] interest in basic food crops probably eliminates a number of US locations, such as Phoenix, Arizona, and the Imperial Valley in California, for which most of the available imagery pertains to specialty crops. [ ] will discuss with his people and advise [ ] concerning future intentions.

5. [ ] will consult further with CIA intelligence components on the availability of KH-4 photography on the Free World and on the progress of [ ]

6. In conclusion I judge that Agriculture and AID require further clarification concerning the extent to which the present and anticipated NRO collection programs can support the interests of non-intelligence agencies, together with the conditions under which such support might be provided.


7. Exploitation of overhead imagery to estimate agricultural production is not comparable to the identification of strategic objects, but requires a

relatively complex operational methodology, the feasibility of which is still being explored. Agriculture and AID need to be further apprised of this consideration and of the desirability of coordinating the overall effort of the government in this direction.

  
Executive Assistant  
Economic Research

Attachment:  
List of attendees

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**Principal Attendees, Ad Hoc Meeting on Availability  
Overhead Imagery for Estimating Agricultural Production  
in Free World Areas, 10 September 1968, at WPIC**



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